

1. The summary of Rejection in JP 2005-276819

Claims 1 - 3 (a method of manufacturing a sputtering target) in Japanese Patent Application No. 2005-276819 are rejected as being unpatentable over Document 1 (JP-A Hei 07-045555 (KOKAI)), Document 2 (JP-A Sho 64-025977 (KOKAI)), and Document 3 (JP-A Hei 01-242733 (KOKAI)).

Document 1 discloses that a sputtering target which consists essentially of 0.05 to 15 at% of at least one first element selected from rare-earth elements such as Y, Sc, La, Ce, Nd, Sm, Gd, Tb, Dy and Er, and balance of Al, is produced by a melting and solidifying method (refer to embodiments 4 and 6). In the manufacturing method of the sputtering target disclosed in Document 1, it is obvious to produce the sputtering target by machining an Al alloy ingot.

When claim 1 and Document 1 are contrasted, to producing the Al alloy ingot containing the intermetallic compound dispersed uniformly by solidifying the melt by the quench coagulation method in claim 1, Document 1 does not disclose the quench coagulation method, and differs in this point from claim 1.

The above-mentioned difference is examined. It is commonly-known technique for one of ordinary skill in the art to apply the quench coagulation method such as spray forming method in a manufacturing method of an alloy target containing a rare-earth element to obtain an alloy dispersed uniformly elements which constitute the alloy (refer to Documents 2 and 3). It is not exceptionally difficult to apply the commonly-known technique in the same technical field to the manufacturing method of the alloy target disclosed in Document 1. A gas used by the spray forming method can be chosen if needed, and if the gas usually used by the spray forming method is taken into consideration, it is not exceptionally difficult to use a gas containing O, N and H which the content is not specified in the spray forming method.

Therefore, claims 1 - 3 in Japanese Patent Application No. 2005-276819 are rejected as being unpatentable over Document 1, Document 2, and Document 3.

2. Claims 1-3 in JP 2005-276819

1. A method of manufacturing a sputtering target, which consists essentially of 0.001 to 30 at% of at least one first element selected from the group consisting of Y, Sc, La, Ce, Nd, Sm, Gd, Tb, Dy and Er, and balance of Al, comprising:

melting an Al raw material containing the first element, and producing an Al alloy ingot containing an intermetallic compound of Al and the first element by solidifying the melt by a quench coagulation method, the intermetallic compound being dispersed uniformly in the Al alloy ingot; and

machining the Al alloy ingot to obtain the sputtering target.

2. The manufacturing method as set forth in claim 1: wherein the quench coagulation method is a spray forming method.

3. The manufacturing method as set forth in claim 2: wherein a gas containing at least one second element selected from O, N and H is injected during spraying in the spray forming method.